

ESTUARIES. *George H. Lauff, Ed. American Association for the Advancement of Science, Publication No. 83, Washington, D. C. 1967. 776 p. \$27.00.*

The Conference on Estuaries, held at Jekyll Island, Georgia, March 31–April 3, 1964, was clearly a milestone in estuarine research. An impressive group of scientists was gathered to exchange ideas and summarize the state of knowledge regarding estuaries. It was the most comprehensive meeting of its kind; both from the standpoint of subject matter and the geographic locales discussed.

The publication, some three years hence, of the papers presented at Jekyll Island is even more significant than the meeting, because now every person with any interest of estuaries can have the book at his elbow. The collection is at once a reference, a text, and a classic. In one volume, the physical, chemical, and biological factors which interact to form the unique estuarine environment have been brought together, with the added attraction of ecology, fisheries, and human influences being thoroughly spelled out.

To the serious student of estuaries, the various bibliographies, especially that by Carriker and the "Supplemental," are worth the price of the book. The fisheries scientist, the papers by McHugh, Gunter, and Pillay cannot help but be thought-provoking. To the conservationist and the lawmaker, Joel Hedgpeth's summary is a well-told tale on which many hats can be hung.

From an overall consideration it would seem that Physical Factors and Sedimentation (of estuaries) have reached a sophisticated state of study. Not far behind is the problem of productivity. Clearly, the ecology, systematics, and fisheries problems of estuaries need more attention than they have received, mainly because of the complexity of each problem area.

The most obvious omission was estuarine flora. This is surprising, for much of the quality of both water and sediments in an estuary is dependent on the abundance and activities of the macroscopic flora. This lack is covered, partially, by several nice papers on nutrients and organic detritus. Nonetheless, there is a distinct gap concerning the rich estuarine phanerogams.

George Lauff, his colleagues, and all the organizations involved, must be commended for adding "Estuaries" to the great collections concerning earth sciences.

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